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Filed : April 11, 1997

Remarks

Claims 1, 6, 7, 9-11, 16, 17 and 20 have been amended by this paper. Claims 2-5, 8, 12-15 and 18-20 remain unchanged by this Amendment. Hence, by this paper, claims 1-20 are presented for examination.

The specific changes to the amended claims are shown on a separate set of pages attached hereto and entitled **VERSION WITH MARKINGS TO SHOW CHANGES MADE**, which follows the signature page of this Amendment. On this set of pages, the insertions are underlined while the ~~deletions are stricken through~~.

In the Office Action mailed January 30, 2001, the Examiner objected to claims 5 and 8 under 37 C.F.R. § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. This objection stemmed from the use of the term "directly" in two locations within claim 1. Applicant has amended claim 1 herein to remove the term "directly" therefrom, since that limitation is unnecessary to define subject matter which is patentable over the art of record. Accordingly, Applicant submits that the above-identified objection has been overcome, and requests that the Examiner remove that objection.

Claims 1-2, 14-18 and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by Malhi (U.S. Patent No. 5,844,773, hereinafter referred to as "Malhi"). The Examiner stated that the above-identified claims are anticipated by Malhi's Figure 4 and accompanying text.

This rejection was originally asserted in the Office Action dated August 14, 2000, and was addressed by amendments and arguments presented in Applicant's response dated January 16, 2001. In response to Applicant's arguments, the Examiner indicated that the term "comprise" is an open language, so that the phrase "an LCD housing comprising a single, light conducting material" can be interpreted as the LCD housing including a light guide or a case, etc. It does not mean that the LCD housing is also a light guide. Therefore, the Examiner stated that the features upon which Applicant relies are not recited in the rejected claim(s).

In response to this rejection, Applicant respectfully incorporates by reference the arguments made in its response of January 16, 2001, but also notes that independent claim 1 has been amended to recite that the computer display comprises "a LCD housing made in a single piece from a light conducting material." (Emphasis added). Similar limitations have also been included in independent claims 16 and 20. Accordingly, Applicant submits that independent claims 1, 16 and 20 now clearly define that the housing is made of a single piece of light

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conducting material, such that the housing functions both as a housing and as a light pipe for conducting light from the light source to the LCD while protecting the LCD.

In contrast to this, Applicant reiterates that Malhi, at column 3, lines 19-21, states that the display unit 20 “comprises a case 22 which in the preferred embodiment is made of a tough acrylic or polyurethane material capable of withstanding cracking or fading.” At column 4, lines 19-20, the Malhi references states that “light guide 80 is made of an acrylic polyurethane material . . . and has a flat surface that is coated with a white sheet of light reflective material.” (Emphasis added). Applicant submits that the mere fact that the case 22 and light guide 80 may be constructed of polyurethane material does not teach that they are the same material. In fact, the lining in the drawing of Figure 4 suggests that the case 22 is of a “different material” than that of the light guide 80. This should not be surprising, since these two elements are disclosed as accomplishing different functions in the Malhi reference. Furthermore, as was noted above, the Malhi reference teaches that the light guide 80 “is a flat surface area that is coated with a white sheet of light reflective material.” (Column 4, lines 21-22, emphasis added). Malhi also teaches that “[t]he reflective material of the light guide 80 captures the admitted light and distributes it evenly across its surface.” (Column 4, lines 32-35). It appears that this coating of light reflective material is located on the surface of the light guide 80 which is adjacent to the case 22. Thus, if light were traveling through the case 22, it would be prevented from entering the light guide 80 along that interface which includes the reflective coating.

Since Applicant’s invention comprises a housing “made in a single piece from a light conducting material,” (e.g., claim 1) there is no intervening layer of light reflective material such as that described in column 4, lines 21-22 of Malhi, which defines two separate elements, which perform separate functions, and which include the intervening layer of reflective material therebetween. Accordingly, Applicant submits that independent claims 1, 16 and 20, as presented herein, define subject matter which is patentable over Malhi.

Applicant also respectfully submits that independent claim 17 defines a method for conducting light in a computer system, wherein light is conducted through the LCD housing to the LCD, and “wherein the LCD housing is made in a single piece from light conducting material and functions as a light pipe for illuminating the LCD and as a housing which protects the LCD.” (Emphasis added). Applicant submits that there is neither any teaching nor any suggestion in

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Malhi for such generation of light through the LCD housing, and particularly through such housing as is defined in independent claim 17 of the above-identified application.

Accordingly, Applicant submits that independent claim 17 also defines subject matter which is patentable over Malhi.

Since claims 2, 14, 15, 18 and 19 each depend from one of independent claims 1, 16 or 17, Applicant submits that these dependent claims also define subject matter which is patentable over Malhi.

In the Office Action, claims 17-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kalmanash (U.S. Patent No. 5,211,463).

The Examiner indicated that Kalmanash discloses, *inter alia*, “a LCD housing comprising a single, light conducting material (46”).” However, Applicant submits that there is neither any teaching nor suggestion in Kalmanash of a method for conducting light in a computer system as defined in claim 17, including “conducting the generated light through the LCD housing to the LCD, wherein the LCD housing is made in a single piece from light conducting material and functions as a light pipe for illuminating the LCD and as a housing which protects the LCD.” (Emphasis added). In each case, the embodiments disclosed in Kalmanash involve combining several separate pieces to produce the light conducting material. For example, in Figure 4, two separate wedge-shaped blocks (46' and 64) are combined to create a light conducting material. In Figure 5, the light conducting material 46" is configured in a wedge-shape which defines an angle θ which “must be chosen to accommodate the locations of the day and night lamps 42", 50” in order to maximize luminosity of the light 74” (Column 6, lines 62-64). There is neither any teaching nor suggesting that such a wedge-shape configuration could function as both a light pipe and as a housing which protects the LCD (*see* claim 17).

Applicant's invention defines a method which uses a housing made in a single piece from light conducting material and which functions as a light pipe for illuminating the LCD and as a housing which protects the LCD. A purpose accomplished by this invention is the minimization of the thickness of the computer housing. The mere teaching of a type of light conducting material, particularly in single or multiple wedge shapes as disclosed in Kalmanash, would not have made obvious, let alone anticipated, such a feature as is defined in Applicant's claim 17. Accordingly, Applicant submits that claim 17 defines subject matter which is patentable over the

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art of record. Furthermore, since claim 18 depends from claim 17, Applicant submits that claim 18 also defines subject matter which is patentable over the art of record.

The Examiner also rejected claims 1-16 and 19-20 under 35 U.S.C. § 103(a) as being unpatentable over Kalmanash in view of Malhi.

As was noted above, Kalmanash does not teach or suggest a LCD housing made in a single piece from a light conducting material (*see, e.g.*, claim 1). Kalmanash discloses a light conducting material, but provides no teaching as to the use of such material also as a housing, let alone a housing which is "made in a single piece from a light conducting material" as is called for in claim 1. A similar limitation is presented in claim 16. Similarly, claim 20 includes the feature that the LCD housing is "made by a unitary construction of translucent material." No such teaching is either present or suggested within the Kalmanash reference.

Even if the Kalmanash teachings are combined with the teachings of Malhi, Applicant submits that the claimed subject matter is neither taught nor made obvious. In particular, as was noted previously, Malhi does not teach nor suggest a LCD housing made in a single piece from a light conducting material. If one were to incorporate the teachings of Kalmanash into Malhi, Applicant submits that the result would be to substitute the light conducting elements, such as 46" of Figure 5, for the light guide 80 in Malhi. There is no suggestion in either reference to replace the entire housing of Malhi with the light conducting components such as 46" in Kalmanash. As was indicated above, at best, only the light guide portion 80 of Malhi would be replaced by the light conducting material of Kalmanash. Accordingly, Applicant submits that even if there were a suggestion to combine the Kalmanash and Malhi references, such combination would neither teach nor have made obvious the subject matter of independent claims 1, 16 or 20 which each define a housing made in a single piece, or by a unitary construction, of light conducting material for conducting light from the light source to the LCD.

In view of the above, Applicant submits that independent claims 1, 16 and 20 define subject matter which is patentable over the art of record. Furthermore, since claims 2-16 and 19 each depend from one of the above-identified independent claims, and since claim 19 depends from an independent claim that defines patentable subject matter (claim 17), Applicant submits that these claims also define subject matter which is patentable over the art of record. Accordingly, Applicant respectfully submits that claims 1-20 are now in condition for immediate allowance and such prompt allowance of the same is respectfully requested.

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Conclusion

The Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims for patentability purposes pursuant to statutory sections 102, 103 and/or 112, the reasons therefore, and arguments in support of the patentability of the pending claim set are presented above.

Any claim amendments which are not specifically discussed in the above remarks are not made for patentability purposes, and it is believed that the claims would satisfy the statutory requirements for patentability without the entry of such amendments. Rather, these amendments have only been made to increase claim readability, to improve grammar, and to reduce the time and effort required of those in the art to clearly understand the scope of the claim language. Any new claims presented above are of course intended to avoid the prior art, but are not intended as replacements or substitutes for any cancelled claims. They are simply additional specific statements of inventive concepts described in the application as originally filed.

In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections is specifically requested. If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to initiate the same with the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated:

June 29, 2001

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claims 1, 6, 7, 9-11, 16, 17 and 20 as set forth below:

1. (Thrice Amended) A computer display comprising:
a LCD housing ~~comprising a single,~~ made in a single piece from a light conducting material;
a light source coupled to the LCD housing;
a LCD coupled ~~directly~~ to the LCD housing;
wherein the LCD housing functions as a light pipe for conducting light from the light source ~~directly~~ to the LCD and protects the LCD.
6. (Amended) The computer display of claim 5 1 wherein the light source is a cold cathode fluorescent lamp.
7. (Amended) The computer display of claim 6 3 wherein the reflectively coated outer surface includes a metallic coating.
9. (Amended) The computer display of claim 8 3 wherein the light source is a cold cathode fluorescent lamp.
10. (Amended) The computer display of claim 9 3 wherein the reflectively coated outer surface includes a metallic coating.
11. (Amended) The computer display of claim 4 3 wherein the light source is substantially enclosed in the LCD housing assembly.
16. (Quadruple Amended) A computer comprising:
a display panel;
first means for generating light for the display panel; and
second means ~~comprising a single,~~ made in a single piece from a light conducting material, for housing the display panel, wherein the second means is connected ~~directly~~ to the display panel and functions as a light pipe so as to conduct light received from the first means for generating light ~~directly~~ to the display panel.
17. (Quadruple Amended) A method for conducting light in a computer system having a LCD and a LCD housing comprising:
generating light; and

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conducting the generated light through the LCD housing ~~directly~~ to the LCD, wherein the LCD housing ~~comprises a single,~~ is made in a single piece from light conducting material and functions as a light pipe for illuminating the LCD and as a housing which protects the LCD.

20. (Amended) A computer display comprising:

a LCD housing ~~comprising~~ made by a unitary construction of translucent material;

a light source coupled to the LCD housing so as to transmit light ~~directly~~ into the LCD housing; and

a LCD coupled ~~directly~~ to the LCD housing such that said LCD is supported by said LCD housing, and wherein light received from the light source is transmitted ~~directly~~ from the LCD housing to the LCD.